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Opinion

Assessing Health Risks in Children and Adolescents in Pediatric Care: Let's Not Forget Social Determinants of Health

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Within the practice of pediatric medicine, a family and social history has historically been a part of the assessment of children. However, the scope of said history was usually limited to understanding the family composition, family health history and developmental behavior and activities of the child. Ongoing advances in basic and clinical sciences have increased knowledge of underlying disease etiology, including the role of genetics and genomics, brain physiology and immune functioning in disease origins and development, have led to the discovery of new and effective pharmacological agents and have informed the development of evidenced based treatment protocols. These advances have clearly improved treatment of existing diseases and conditions. There has also been advances in understanding the role of social factors as contributors to both immediate and long term health outcomes for patients throughout childhood and reaching into adulthood. Medical care as well as genetics, social circumstances, behavior, environmental and physical influences have been defined as the major determinants of health [1]. While access to medical care and clinical care contribute to health outcomes, more than 80% of the health outcomes are attributable to health behaviors as well as social and environmental factors [2]. Pediatrics is well situated to take the lead for including a broader and more robust social history to deepen our understanding, assessment and treatment of these risk factors.

A number of epidemiological studies have supported relationships between social and environmental conditions and health behaviors and outcomes. The Adverse Childhood Experiences (ACEs) study was one of the first studies that examined the relationship between negative early childhood experiences and environments and long-term health effects in a large retrospective study [3]. This landmark study of 1700 individuals demonstrated that as the number of negative early childhood experiences increased, the likelihood for the development of chronic diseases in adulthood increased as well. Specifically, these experiences were associated with an increase in many of the top ten causes of death globally including heart disease, obesity, diabetes, chronic lung disease [4]. and depression, as well as an increased likelihood to engage in negative health behaviors such as substance use and abuse and risky sexual behaviors. This landmark study found it was not the frequency or chronicity of each item but rather the number of unique factors (types of adversity) that increased the likelihood of negative health outcomes and behaviors. The negative early childhood experiences broadly fit into three categories: abuse, neglect and family dysfunction. Similarly, results from the Nurses' Health Study I (NHSI), the Nurses' Health Study II (NHSII), along with the offspring cohort of NHSII, Growing Up Today, supported the relationship between not only psychiatric illness but also psychosocial stressors to cardiac disease and diabetes [5]. The major limitation of the original ACE study sample was the lack of generalizability as the sample was primarily white and came from one insured system in one state. Similarly, the Nurses Health Studies were limited as study samples were primarily women and from one distinct professional group.

However, a recent, large nationally representative study demonstrates the relationship between early adversity and negative health outcomes holds across socioeconomic, geographic and racial groups [6]. And another recent study, found there was not appreciable difference whether measurements of ACEs was conducted prospectively or retrospectively in predicting health in adulthood [7]. Collectively, these studies provide strong evidence

of adversity as contributors to health outcomes. While prevention of long-term negative health outcomes is important, more recent studies have examined the relationships of experiencing ACEs to proximal consequences. Garrido, Edward, Weiler and Taussing found a relationship between ACES and delinquency, substance abuse and violence in adolescence [8], while other studies have documented the association of ACES with not only illicit drug use but low educational attainment [9]. ACES have been linked not only to tobacco, alcohol and marijuana use in adolescence but also early initiation of drinking and binge drinking [10]. Unlike many of the earlier retrospective studies on adult outcomes that found a dose response relationship between the number of unique adverse experiences and poor health outcomes, some of the newer research with adolescents has found those experiencing chronic ACES are more likely to experience health problems both in later adolescence and as adults [11]. While the relationship between adversity and health outcomes has been established through large epidemiological studies, there is less evidence for the best method of measuring and assessing adversity.

A number of instruments exist, and all perform well in demonstrating the relationship; few if any have been validated [12]. Additionally, while similar, there is variability in the measurement of constructs across instruments. This difference in part reflects the setting for which the instruments were originally designed (research vs. clinical practice) as well as the contextual and cultural meaning of what constitute adversity for sub-populations [13]. Despite the lack of research to validate instruments, the underlying intent of all is to provide an opportunity to assess the stressors in the child/adolescent life. At the very least, they provide an opportunity to open the conversation on understanding and assessing both adverse experiences and protective factors and behaviors to provide a foundation for providing education and treatment to patients and their families. The confluence of the genetic, biological, psychological, social and environmental stressors that can impact health are likely not addressed by any one individual or discipline. An integrated and multidisciplinary team approach may be the ideal way to improve the health of our children and adolescents now and in the future. Along with expert diagnostic and clinical care, the early screening and identification of possible stressors/ACES, the promotion of support networks, referral to behavioral health as needed, and referral for social services is a holistic approach that potentially strengthens resilience and alleviates or mitigates environmental and social stressors. Pediatric care providers are ideally suited and situated to lead in this endeavor.

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